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10/743,157

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Shinichi Momonami

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EXAMINER

MIRZADEGAN, SAEED S

ART UNIT

PAPER NUMBER

2144

NOTIFICATION DATE

DELIVERY MODE

03/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/743,157	Applicant(s) MOMONAMI, SHINICHI	
	Examiner SAEED S. MIRZADEGAN	Art Unit 2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to amendments filed on 05 December 2007.

Response to Amendments

1. All of the references cited on the IDS submitted on 23, December 2003 have been considered.
2. Applicant's Amendments, with respect to Drawings have been fully considered and are persuasive. The Objections to Drawings have been withdrawn.
3. Applicant's Amendments, with respect to Specifications have been fully considered and are persuasive with the following exception. Although the objection to disclosure is withdrawn for the informality recited on Page 5, lines 17-20 which recites "sends setting information for enabling communication between the user terminal and the host terminal via the second transmission line, to the user terminal via the first transmission line"; it is highly recommended that for the sake of clarity, the specification should read "sends configuration information to the user terminal via the 1st transmission line for enabling communication over the 2nd transmission between the user terminal and the host terminal". Thus the Objections to Specifications have been withdrawn except as follows.

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4. Contrary to the applicant's assertion that one skilled in the art would understand that a modem can communicate with a network. The Examiners position as previously had been stated in the FOAM is that since the applicant recites on page 21, line 25 and page 26, lines 1 & 2 that "a modem that is a signal conversion apparatus for executing data communication with the host terminal 2 via the network interface 6a" means that the modem is communicating via the network interface. The examiner maintains its objection until the applicant can explain how the modem is communicating with the network interface as stated in the specification since modems communicate with other modems and via a communications medium such as telephone lines and not with network interfaces as recited in the specifications.

5. Applicant's amendments with respect to Claim 1 objection have been fully considered and are persuasive. Thus objection to claim 1 is withdrawn.

6. Applicant's amendments with respect to Claim 1 rejection under 35 U.S.C. 112 of have been fully considered and are persuasive. Thus the 35 U.S.C. 112 rejection of Claim 1 is withdrawn.

7. Applicant's amendments with respect to Claim 7 rejection under 35 U.S.C. 112 of have been fully considered and are persuasive. Thus the 35 U.S.C. 112 rejection of Claim 7 is withdrawn.

8. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the following ground(s) of rejection.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recited limitation in line 13-15 "setting information sent from the host terminal, allows a setting for connecting the user terminal and the host terminal via the second transmission line when communication between the user terminal and the host terminal via the second transmission line is not possible, and forbids a setting for reconnecting" which is contradictory.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. **Claims 1-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yashimura et al. (US PG. Pub. No. 2003/0217178) hereafter "Yashimura", in view of Kim et al. (US Pat. No. 6473788), hereafter "Kim", and further in view of Dove et al. (US Pat. No. 6175865) hereafter "Dove":

13. Regarding **Claim 1**, Yashimura discloses a remote maintenance system comprising: a plurality of user terminals (**¶0144, Fig. 21**) **receiving apparatuses 2a-2c**, that are connected to at least a plurality of transmission lines (**Fig. 21**) **transmission lines 4 & 5**, of different communication methods (**¶0023 & ¶0024**) **first and second communication method which are different and have different communication protocols**; a host terminal that is connected to the plurality of transmission lines (**Fig. 21**) **sending apparatus**; a user-side local area network that is connected to a specified transmission line of the plurality of transmission lines so as to connect the plurality of user terminals (**Fig. 21**) **network 4, connecting 2a, 2b, 2c**); and a network interface for connecting the plurality of user terminals and the user-side local area network (**Fig. 3, 206**) **Network Interface for connecting to network 4**, wherein when the user terminal

(Fig 21) 2a-2c, connected to a predetermined first transmission line of the plurality of transmission lines (Fig. 21) 4 & 5, sends a specified contract signal (§0023) sending data, to the host terminal via the first transmission line (Fig 21) 4: the host terminal selects a predetermined second transmission line from among the plurality of transmission lines as a transmission line (§0114) the receiving apparatus selects the transmission path from plurality of available paths, and sends setting information to the user terminal via the first transmission line (§0015) internet, the setting information for enabling communication between the user terminal and the host terminal via the second transmission line (§0115) receiving apparatus may report to sending apparatus a destination path instead of a specific transfer path; and the user terminal receives the setting information sent from the host terminal, and makes a setting so as to enable communication-between the user terminal and the host terminal via the second transmission line on the basis of the received setting information (§0027 and §0028) sending information about an alternate communication method to the other device by the second communication method to enable communication via the first communication method. However Yashimura does not teach: manage specified maintenance information of the user terminals that are under specified contracts; a connection completion signal that represents the completion of connection between the user-side local area network and the network interface to the host terminal via the first transmission line; sending data that includes the specified maintenance information.

14. In the same field of endeavor, Kim teaches, **(Col. 1, line 9-12) maintenance and servicing of a remote peripheral device (terminal)**; Kim further teaches **(Col. 1, lines 66-67 & Col. 2, lines 1-2 & 15-18) sending instructions to the node for servicing and maintenance.**

15. It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Kim's teachings of maintenance and servicing of a remote peripheral device and sending service and maintenance instructions with the teachings of Yashimura, for the purpose of **(see Kim, Col. 1, lines 27-31) reducing the number of site visits required to be made by service technicians.** Yashimura provides motivation to do so, by utilizing an alternate transmission method and steps to improve the reception of data being transferred to a receiving apparatus even if an error occurs in the data transfer **(see Yashimura, Page 1, ¶0005 & ¶0012).**

16. In the same field of endeavor, Dove teaches, **(Col. 5, lines 62-67 & Col. 6, lines 1-4 & 18-21) a signal that represents a connection establishment between a node and a network.**

17. It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Dove's teachings of a signal that represents a establishment of a connection between a node and a network with the

teachings of Yashimura, for the purpose of **(see Dove, Col. 1, lines 7-10 & Col. 3, lines 5-7) automating the configuration of the media connections in a local area network**. Yashimura provides motivation to do so, by utilizing an alternate transmission method and steps to improve the reception of data being transferred to a receiving apparatus even if an error occurs in the data transfer **(see Yashimura, Page 1, ¶0005 & ¶0012)**.

18. Regarding **Claim 2**, Yashimura & Kim and Dove as applied to claim 1 above disclose the invention as claimed. Yashimura further discloses: the user terminal includes resetting monitoring means **(Fig. 3, 201) controller**, that monitors the setting information sent from the host terminal **(¶0056, lines 1-3) performs an entire control of receiving apparatus 2**, allows a setting for connecting the user terminal and the host terminal via the second transmission line when communication between the user terminal and the host terminal via the second transmission line is not possible, and forbids a setting for reconnecting the user terminal and the host terminal via the second transmission line when the user terminal and the host terminal are already connected via the second transmission line and communication is possible **(¶0027 & ¶0028)**.

19. Regarding **Claim 3**, Yashimura & Kim and Dove as applied to claim 1 above disclose the invention as claimed. Yashimura further discloses: the user terminal further includes user terminal diagnosing means **(¶0056, lines 1-3) performs an entire control of receiving apparatus 2**, that diagnoses whether the network interface is

available or unavailable (**¶0070 & ¶0071**) by monitoring the transmission results, it is determined whether the communications via the NIC is available or unavailable; and when the user terminal diagnosing means diagnoses that the network interface is unavailable, information that the network interface is unavailable is sent to the host terminal via the first transmission line (**¶0070 & ¶0071**) when the transmission results indicates that transmission via the NIC is unavailable, the information is sent via the alternate transmission method.

20. Regarding **Claim 4**, Yashimura & Kim and Dove as applied to claim 3 above disclose the invention as claimed. Yashimura further teaches: the user terminal diagnosing means diagnoses whether the user-side local area network has an abnormality (**¶0070 & ¶0071**) by monitoring the transmission results, it is determined whether the communications via the NIC is available or unavailable, and when the user terminal diagnosing means diagnoses that the user-side local area network has an abnormality, information that the user-side local area network has an abnormality is sent to the host terminal via the first transmission line (**¶0070 & ¶0071**) when the transmission results indicates that transmission via the NIC is unavailable, the information is sent via the alternate transmission method.

However Yashimura and Dove do not explicitly teach the user terminal is connected to the second transmission line via the user-side local area network.

21. In the same field of endeavor, Kim teaches, **(Fig. 1, 15) user terminal 11 is connected to the transmission line via the user-side local area network.**

22. It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Kim's teachings of connecting the user terminal to the transmission line via the user-side local area network, with the teachings of Yashimura and Dove, for the purpose of **(see Kim, Col. 1, lines 27-31) reducing the number of site visits required to be made by service technicians.**

Yashimura provides motivation to do so, by utilizing an alternate transmission method and steps to improve the reception of data being transferred to a receiving apparatus even if an error occurs in the data transfer **(see Yashimura, Page 1, ¶0005 & ¶0012).**

23. Regarding **Claim 5**, Yashimura & Kim and Dove as applied to claim 3 above disclose the invention as claimed. Yashimura further teaches: the host terminal includes host terminal diagnosing means **(Fig.1, 101) controller**, that diagnoses trouble of the user terminal and diagnoses whether communication between the user terminal and the host terminal via the second transmission line is impossible **(¶0054, lines 1-4);** and when the host terminal diagnosing means diagnoses that communication between the user terminal and the host terminal via the second transmission line is impossible **(¶0110, line 3)**, the host terminal sends information that communication between the user terminal and the host terminal via the second transmission line is impossible, to the user terminal via the first transmission line **(¶0112) when an error occurs preventing**

transmission via the second transmission line, the user terminal transmits via the first transmission line, and the user terminal receives the information sent from the host terminal (**¶0112**), and causes the user terminal diagnosing means to diagnose whether the network interface is unavailable and whether the user-side local area network has an abnormality (**¶0070 & ¶0071**) **by monitoring the transmission results, it is determined whether the communications via the NIC is available or unavailable.**

24. Regarding **Claim 6**, Yashimura & Kim and Dove as applied to claim 1 above disclose the invention as claimed. Yashimura further discloses: when receiving at least one of the information that the network interface is unavailable and the information that the user-side local area network has an abnormality which are sent from the user terminal via the first transmission line (**¶0102, lines 1-4**), the host terminal sends setting information for enabling communication between the user terminal and the host terminal via the second transmission line, to the user terminal via the first transmission line (**¶0102**).

25. Regarding **Claim 7**, Yashimura & Kim and Dove as applied to claim 1 above disclose the invention as claimed. Yashimura further discloses: the user terminal sends the information to the host terminal (**¶0114, lines 1-4**). However Yashimura & Dove do not teach: the host terminal further includes data registering means that renews and registers the specified maintenance information of the user terminal that is under the

specified contract, and the host terminal receives the maintenance information and then registers the maintenance information into the data registering means; specified maintenance information.

26. In the same field of endeavor, Kim teaches, **(Fig. 6, 109) Data storage on servicing device (host) where the transmitted information is stored.** Kim further teaches, **(Col. 1, lines 66-67 & Col. 2, lines 1-2 & 15-18) sending instructions to the node for servicing and maintenance.**

27. It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Kim's teachings of data storage in the host terminal which stores the maintenance information as well as sending service and maintenance information to the node with the teachings of Yashimura and Dove, for the purpose of **(see Kim, Col. 1, lines 27-31) reducing the number of site visits required to be made by service technicians.** Yashimura provides motivation to do so, by utilizing an alternate transmission method and steps to improve the reception of data being transferred to a receiving apparatus even if an error occurs in the data transfer **(see Yashimura, Page 1, ¶0005 & ¶0012).**

28. Regarding **Claim 8**, Yashimura & Kim and Dove as applied to claim 1 above disclose the invention as claimed. Yashimura further discloses: plurality of transmission lines so as to connect the host terminal as well as second transmission line **(Fig. 21, 4**

& 5). However Yashimura and Dove do not teach: a host-side local area network that is connected to a specified transmission line & the host terminal is connected to the transmission line via the host-side local are network,

29. In the same field of endeavor, Kim teaches, **(Fig. 1, LAN 19) host-side local area network which connects the host terminal to the network via the transmission line.**

30. It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Kim's teachings of a plurality of transmission lines that connect the host terminal, one of them being designated the second transmission line with the teachings of Yashimura and Dove, for the purpose of **(see Kim, Col. 1, lines 27-31) reducing the number of site visits required to be made by service technicians.** Yashimura provides motivation to do so, by utilizing an alternate transmission method and steps to improve the reception of data being transferred to a receiving apparatus even if an error occurs in the data transfer **(see Yashimura, Page 1, ¶0005 & ¶0012).**

31. Regarding **Claim 9**, Yashimura & Kim and Dove as applied to claim 1 above disclose the invention as claimed. Yashimura further discloses the first transmission line is constituted by a public switched telephone network **(Fig. 26, 5) telephone line.**

32. Regarding **Claim 10**, Yashimura & Kim and Dove as applied to claim 1 above disclose the invention as claimed. Yashimura further discloses: the second transmission line is constituted by a line network that is capable of high-speed transmission of a large amount of data **(Fig. 26, 4) High-speed network**.

33. Regarding **Claim 11**, Yashimura discloses a remote maintenance system comprising: a plurality of user terminals **(¶0144, Fig. 21) receiving apparatuses 2a-2c**, that are connected to first and second transmission lines **(Fig. 21) transmission lines 4 & 5**, of different communication methods **(¶0023 & ¶0024) first and second communication method which are different and have different communication protocols**; a host terminal that is connected to the first and second transmission lines **(Fig. 21) sending apparatus**, a user-side local area network that is connected to the second transmission line **(Fig. 21) network 4, connecting 2a, 2b, 2c**; and at least one network interface for connecting the plurality of user terminals and the user-side local area network **(Fig. 3, 206) Network Interface for connecting to network 4**, wherein, when a first one of the plurality of user terminals connects to the user-side local area network **(¶0144, Fig. 21) any one of receiving apparatuses 2a-2c**, the host terminal **(Fig. 21) sending apparatus**, sends to the first one of the plurality of user terminals **(Fig. 21) any one of receiving apparatuses 2a-2c**, via the first transmission line **(Fig. 21, either 4 or 5)**, setting information for enabling communication between the first one of the plurality of user terminals and the host terminal via the second transmission line **(¶0115) receiving apparatus may report to**

sending apparatus a destination path instead of a specific transfer path; and the first one of the plurality of user terminals (Fig. 21) any one of receiving apparatuses 2a-2c, receives the setting information sent from the host terminal, and makes a setting so as to enable communication between the user terminal and the host terminal via the second transmission line on the basis of the received setting information (§10027 and §10028) sending information about an alternate communication method to the other device by the first communication method to enable communication via the second communication method. However Yashimura does not teach: said host terminal being adapted to manage specified maintenance information of the user terminals that are under specified contracts; the first one of the plurality of user terminals, sends a user-side network connection completion signal to the host terminal via the first transmission line and also sends a specified contract signal to the host terminal via the first transmission line:

34. In the same field of endeavor, Kim teaches, **(Col. 1, line 9-12) maintenance and servicing of a remote peripheral device (terminal);** Kim further teaches **(Col. 1, lines 66-67 & Col. 2, lines 1-2 & 15-18) sending instructions to the node for servicing and maintenance.**

35. It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Kim's teachings of maintenance and servicing of a remote peripheral device and sending service and maintenance

instructions with the teachings of Yashimura, for the purpose of **(see Kim, Col. 1, lines 27-31) reducing the number of site visits required to be made by service technicians.** Yashimura provides motivation to do so, by utilizing an alternate transmission method and steps to improve the reception of data being transferred to a receiving apparatus even if an error occurs in the data transfer **(see Yashimura, Page 1, ¶0005 & ¶0012).**

36. In the same field of endeavor, Dove teaches, **(Col. 5, lines 62-67 & Col. 6, lines 1-4 & 18-21) a signal that represents a connection establishment between a node and a network.**

37. It would have been obvious to one of ordinary skill in the networking art at the time the applicant's invention was made to combine Dove's teachings of a signal that represents a establishment of a connection between a node and a network with the teachings of Yashimura, for the purpose of **(see Dove, Col. 1, lines 7-10 & Col. 3, lines 5-7) automating the configuration of the media connections in a local area network.** Yashimura provides motivation to do so, by utilizing an alternate transmission method and steps to improve the reception of data being transferred to a receiving apparatus even if an error occurs in the data transfer **(see Yashimura, Page 1, ¶0005 & ¶0012).**

38. Regarding **Claim 12**, all the limitations of claim 12 have been addressed above in system form rather than method form. Therefore, the supporting rationale applies equally as well to claim 12.

Response to Arguments

39. Applicant's arguments filed on 24 July 2007 have been carefully considered but they are not deemed fully persuasive. However, because there exists the likelihood of future presentation of this argument, the Examiner thinks that it is prudent to address applicant's main point of contention. Applicant's arguments include:

A. Applicant argues that the rejection of Claim 2 under 35 U.S.C. 112 is not proper.

B. Applicant argues that in Yoshimura, the receiving apparatus rather than the host apparatus selects a second transmission path.

40. As to "Point A", applicant's arguments with respect to 35 U.S.C. 112 rejection of Claim 2 have been fully considered and are not persuasive. If as stated, "the communication between the user terminal & the host terminal via the second (2nd) transmission line is not possible (impossible)", then how is setting information being sent via the 2nd transmission line to allow connecting the user terminal & the host terminal as so stated in claim 2 "allow a setting for connecting the user terminal and the host terminal via the second (2nd) transmission line". It is the Examiners position that the

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35 U.S.C. 112 rejection of Claim 2 is proper, thus the 35 U.S.C. 112 rejection of Claim 2 is maintained.

41. As to “Point B”, it is the Examiner’s position that since the end result of Yoshimura and the instant application are the same, that being “selecting and utilizing an alternate method of communication between a host (sender) and user (receiver) among a plurality of communications paths”. There is no patentable distinction between the two. Whether the host or the sender initiates or makes the selection is merely a design choice and can easily be delegated to either party. Thus it is the Examiners position that the 35 USC 103 rejection is proper.

Prior Art of Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to form PTO-892 (Notice of Reference Cited) for a list of relevant prior art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saeed S. Mirzadegan whose telephone number is 571-270-3044. The examiner can normally be reached on M-F 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. S. M./

Examiner, Art Unit 2144

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/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2144